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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,388	07/22/2003	Katharine M. Cowger	P02005US2A(P341)	6822

7590

06/06/2006

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EXAMINER

KNABLE, GEOFFREY L

ART UNIT

PAPER NUMBER

1733

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/624,388

Applicant(s)

COWGER ET AL.

Examiner

Geoffrey L. Knable

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2005 and 10 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-23 is/are pending in the application.
- 4a) Of the above claim(s) 12,13,16 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-11,14,15,17 and 19-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. Applicant's election of the various species detailed in the reply filed on 3-10-2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 12, 13, 16 and 18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 3-10-2006.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 22-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

New claims 22 and 23 require a viscoelastic coating on the band element - it however is not considered that this was described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, i.e. it is considered to be new matter. The portion of the specification referred to by applicant for support (page 8, line 12) refers to "another embodiment", there being no indication that this embodiment is directed to coatings for a tire *band element* - rather, it seems more directed to typical belt/carcass fabrics and not band element coatings.

5. Claims 2 and 4-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 2 as amended, reference is made in the preamble to "forming tire band elements," with new dependent claim 8 referencing a step that occurs "during preparation of the band element" but there is no clear explicit step in the body of claim 2 of forming/preparing a band element - the scope of claims 2 and/or 8 is therefore considered to be indefinite. Assuming the intent is that the claimed method actually requires forming or preparing a band element (in light of the preamble), it would be clearer and avoid this ambiguity if such a step were included in the body of the method or the claim were recast in Jepson form (e.g. In a process for forming tire band elements, the improvement comprising...").

6. Claims 2-11, 14, 15, 17, 19 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over at least one of [Vossberg et al. (US 6,405,773) or Markow (US 4,734,144)] taken in view of at least one of [White et al. (US 6,518,330) or Skipor et al. (US 2004/0007784)].

These references are applied for substantially the same reasons as set forth in the last office action. As to the new claims, both secondary references would suggest embedding/dispersing the microcapsules and facilitator throughout the matrix to be made self-healing as required by claims 4 and 14. As to claims 5 and 11, the secondary references evidence an understanding of the suitability of a wide variety of monomer reactants including dienes and styrenes (e.g. col. 2, lines 1-5; col. 3, lines 28

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and 58-61 of White and paragraphs [0026]+ of Skipor et al.) - use of any such material being obvious. As to claims 6, 7, 9 and 10, band elements in tires are conventionally formed from composites of resin and fibers including multilayer composites formed using filament winding - note both Vossberg et al. (e.g. fig. 12) and Markow (e.g. col. 4, lines 38-49). As to claims 8 and 19, the secondary references would have suggesting mixing the microcapsules with the matrix during formation of the product, these references further also clearly suggesting that the capsules are designed/selected to only rupture when needed, i.e. when a crack forms - note also paragraph [0053] of Skipor et al. As to claims 15/17, the secondary references clearly suggest using polymerization catalysts/initiators, the particular type being well within the selection skill of the ordinary artisan depending upon the polymerization system selected - note also paragraph [0036] of Skipor et al. suggests anionic polymerization. As to claim 21, note col. 5, lines 12-15 of White et al. and paragraph [0024] of Skipor et al. As to claim 22-23, use of the self-healing material in elastomer components would have been obvious in view of the reference to pneumatic tire parts as well as elastomer in Skipor et al.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over [Vossberg et al. (US 6,405,773) or Markow (US 4,734,144)] taken in view of at least one of [White et al. (US 6,518,330) or Skipor et al. (US 2004/0007784)] as applied above, and further in view of Dry (US 5,561,173).

Use of different shell types for the microencapsulated reactants would have been obvious in view of Dry, which is also directed to self-repairing matrix materials using dispersed rupturable containers, and evidences an understanding that different types of

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rupturable fibers (which are hollow to contain the reactant) can be combined as desired - e.g. col. 8, lines 60+.

8. The information disclosure statement filed 1-6-2006 fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement. The information disclosure statement has been placed in the application file, but the information referred to therein has not been considered.

9. Applicant's arguments filed 11-23-2005 have been fully considered but they are not persuasive.

The 35 USC 102 rejections have been withdrawn in view of the amendments to the claims. The 35 USC 103 rejection will however be maintained. It is argued that the primary references do not suggest incorporating a self-healing composition. While it is agreed that these references do not suggest self-healing compositions, these references were applied principally merely as evidence that tire band elements are conventionally formed from composite materials and further that cracking is a known concern in such bands. Given that the secondary references are directed generally to making composites self-healing upon cracking, that tire run flat band elements are

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conventionally formed from composites and that cracking is a concern for such elements (as it is of course for all composites), it is submitted that the artisan would have been strongly motivated to adopt or adapt the teachings of the secondary references to conventional composite run flat bands with an expectation of providing an advantageous self-healing composite band. The argument that there is no suggestion that the microcapsules could survive the tire processing is noted but unpersuasive in view of the apparent understanding and suggestion in both White et al. (esp. col. 4, lines 46-51) and Skipor et al. (esp. paragraph [0053]) that the capsules be selected to survive the shaping/processing, it being considered that the ordinary artisan would have been readily able to so select capsules to survive tire shaping/processing through routine optimization for only the expected results. As to the new claims, note the statements of rejection.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

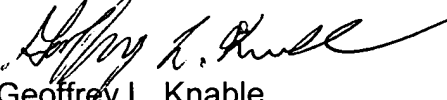
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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 571-272-1220. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Geoffrey L. Knable
Primary Examiner
Art Unit 1733

G. Knable
May 29, 2006